

II. REMARKS

Claims 1 to 90 are pending in the subject application. Claims 1 to 63 have been withdrawn as the result of a requirement for restriction. Claims 64 to 90 were elected with traverse and were examined by the Office in the first Office Action.

The specification has been amended to correct a typographical error as requested by the Office. Claim 79 is canceled without prejudice or disclaimer. Claims 64, 77 and 80 were amended. Support for the amendments to the claims is found in the specification on page 24, line 7 to page 25, line 24. Accordingly, an issue of new matter is not raised by these amendments and entry thereof is respectfully requested.

The cancellation of claim 79 and the amendment of claims 64, 77 and 80 are made without prejudice or disclaimer to Applicant's right to pursue the same or similar claims in a later filed continuation application. The cancellation of claim 79 and the amendments to claims 64, 77 and 80, are not intended to be a dedication to the public of the subject matter of these claims as originally filed.

In view of the preceding amendments and remarks which follow, reconsideration and withdrawal of the objections and rejections set forth in the January 20, 2004 Office Action is respectfully requested.

Oath

The Office objected to the Oath filed with the application and requested a substitute Oath which lists the application serial number and filing date. Attached to this Reply is an executed substitute Oath for entry into the application file. In view of this submission, removal of the objection is respectfully requested.

Objection to the Specification

The Office objected to the Specification on the ground that line 26 of page 7 should recite "312" rather than "3012." Applicant has amended the specification to remove this typographical error. In view of this amendment, reconsideration and withdrawal of the objection is respectfully requested.

35 U.S.C. § 101

Claims 64-68 stand rejected under 35 U.S.C. § 101 on the ground that the claimed invention is directed to non-statutory subject matter. The Office stated that claims 64-68 merely claim a data structure (*i.e.* a patient medical record) comprising the plurality of features. The Office noted that according to MPEP 2106 IV B 1(a), data structures are not claimed as embodied in computer-readable media are not statutory because they are not capable of causing functional change in the computer. The Office argued that in present case, the data structure (*i.e.* the patient medical record) is not embodied in computer readable media, and there are no computer executable codes to perform the claimed features, such as placing a clickable image over the patient image. The Office advised applicant to embody the data structure in a computer-readable media, and to embody computer executable codes in the computer-readable media to perform the claimed features.

Applicant has amended independent claim 64 as requested by the Office. In view of this amendment, reconsideration and withdrawal of the rejected under 35 U.S.C. § 101 is respectfully requested.

35 U.S.C. § 102

Claims 77-82, 86-87 and 90 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Wood *et al.*, U. S. Patent 5,851,186.

As to claim 77, the Office stated that Wood teaches a method for gathering patient data comprising:

- "a) Providing patient measuring equipment (abstract and column 2 line 65 – column 3 line 12 and Fig. 1; *specifically, "measuring equipment" correspond to ultrasound system in Wood's teaching*);
- b) Establishing a web-based camera focused in the proximity of said patient measuring equipment whereby the position of a patient is within said camera's field of view (column 2 line 63 – column 3 line 12 and column 11 lines 54-67; *specifically, the web-based camera corresponds to the ultrasound probe in Wood's teaching*);
- c) Establishing a web-based monitor positioned remotely from said patient measuring equipment and connected to said web-based camera through an web-based

connection (column 2 lines 63-65 and column 3 lines 34-42 and column 11 lines 54-67 and Fig. 1; *specifically, "a web-based monitor" corresponds to item 108 of Fig. 1*);

d) Establishing a communication path from said remotely positioned web-based monitor to the area in which the patient measuring equipment is located whereby a physician can direct the manner in which the patient measuring is being conducted (column 2 lines 63-65 and column 3 lines 34-42 and column 11 lines 54-67 and Fig. 1)."

See page 4 of the January 20, 2004 Office Action.

Similarly, the Office alleged that claims 78, 79, 80, 81, 82, 86, 87 and 90 are anticipated by Wood.

Applicant respectfully traverses. Independent claims 77 and 80 have been amended to more clearly describe the invention which Wood fails to meet or disclose. First, Applicant notes that Wood is limited to visualization by ultrasound. However, ultrasound cannot be used to visualize nerves into most regions of the body as Applicant's invention can.

Wood describes a routine internet function in which a user can apply HTML to select icons, enlarge images, identify instructions, *etc.* However, Wood does not contemplate creating HTML clickable zones based on individual elements of anatomy and pathology within the image. In fact, Wood's system is completely incapable of being used in this fashion because the image is transmitted from a non-physician and by a machine with no provision for a physician, artificially intelligent image analyzer or trained technician to identify individual anatomical structures and findings in the image, place clickable zones over them, and then to make links to these zones.

It is standard and routine to provide clickable links from text, icons, or thumbnails of entire images for HTML use across the internet from an http server, however, the provision of links on the image itself has not been contemplated. Further, Wood also fails to teach the means for allowing the patient to be able to click the features in his or her own image for purposes of learning about their own anatomy and learning about the significance of the finding.

Additionally, Wood fails to provided a means by which findings in the textual report can be linked to anatomical features within the image. The user of the html can only bring an entire

image into view. There is no way of interacting with individual anatomical and pathological findings within the image.

In view of the preceding amendments and remarks, reconsideration and withdrawal of the rejection under 35 U.S.C. § 102, is respectfully requested.

35 U.S.C. § 103

Claims 83-85 and 88-89 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Wood et al., U. S. Patent 5,851,186 in view of Qian et al., U. S. Patent 6,070,167.

The Office stated that as to claim 83, Wood teaches web-based programming commands that are hyperlinks associated with said diagnostic image (column 9 lines 54-60 and column 10 lines 13-44). The Office acknowledged that while Wood does not specifically teach said web-based programming commands are hyperlinks associated with certain areas within said diagnostic image, the secondary reference Qian, teaches web-based programming commands which are hyperlinks associated with certain areas within an image (column 5 lines 10-13 and column 7 lines 54-58 and Fig. 2). The Office argued that it therefore would have been obvious to one of ordinary skill in the art at the time the invention was made to allow hyperlinks in Qian's teaching to be associated with certain areas within the diagnostic image because this would allow the user to easily find, link, and manipulate desired information related to the diagnostic image.

As to claims 84-85, the Office alleged that Wood teaches circle, draw on, or point to specific feature of said diagnostic image. The Office acknowledged Wood does not explicitly teach adding graphical images to said diagnostic image, and where said web-based programming commands are hyperlinks associated with said graphical images, but argued that nevertheless, Qian teaches adding graphical images to another image, and a web-based programming commands are hyperlinks associated with the graphical image (column 8 lines 2-18 and Figs. 2-3). The Office argued that accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow Wood's teaching to include the feature of adding graphical images to the diagnostic image, and where the web-based programming commands are hyperlinks associated with said graphical images because this would allow the user to easily find, link, and manipulate desired information related to the diagnostic image.

With respect to claim 88, the Office alleged that Wood teaches a reading physician add said diagnostic image to said initial computer-based patient record (see claims 81-82 above; specifically, “a read physician” corresponds to the user described in column 9 lines 54-59), Wood further teaches circle, draw on, or point to specific feature of said diagnostic image. The Office acknowledged that Wood does not specifically teach adding graphical images to said diagnostic image, but noted that however, Qian teaches adding graphical images to another image (column 8 lines 2-18 and Figs. 2-3). The Office argued that accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow Wood’s teaching to include the feature of adding graphical images to the diagnostic image because this would allow the user to easily find, link, and manipulate desired information related to the diagnostic image.

As to claim 89, the Office argued that Wood teaches a technician adds web-based programming commands which are associated with said diagnostic image (column 3 lines 21-32 and column 4 lines 51-64 and column 9 line 54 – column 10 lines 12 and Figs. 4-7).

Claims 64-76 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Qian et al., U. S. Patent 6,070,167 in view of Scott et al., U. S. Patent 6,468,212.

The Office stated that with respect to claim 64, Qian teaches a computer-based record comprising:

- “a) A digitally encoded image (column 2 lines 37-40 and Fig. 3);
- b) At least one clickable image map placed over said image (column 8 lines 11-18 and Fig. 3; *specifically, the clickable image map corresponds to item 62 of Fig. 3*);
- c) Additional information linked to said clickable image map, whereby selection of said clickable image map by a user of said computer-based record retrieves said additional information (column 8 lines 11-18 and Fig. 3; *specifically the additional information correspond to item 66 of Fig. 3*).”

The Office acknowledged that Qian does not specifically teach the computer-based record is a computer-based patient medical record and the digitally encoded image is a digitally encoded patient image. The Office stated that however, Scott teaches manipulating a computer-based patient record comprising a digitally encoded patient image (abstract and Figs. 17-21), and

that therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the computer-based record in Qian's teaching to be a computer-based patient medical record and the digitally encoded image to be a digitally encoded patient image because this would expand the usage environments of Qian and attract more users to use Qian' teaching.

The Office argued that as to claim 65, Qian teaches the computer-based record comprises at least one graphical symbol superimposed on said digitally encoded image (column 3 lines 15-22, 50-65 and column 8 lines 11-18 and Fig. 3).

The Office stated that:

"Qian further teaches said graphical symbol is stored digitally within said digitally encoded image (column 11 lines 32-34). As to claim 67, Qian further teaches said graphical symbol is stored as an overlay in a separate file associated with said digitally encoded image (column 3 lines 52-59 and column 11 lines 35-37). As to claims 65-67, Qian does not specifically teach the computer-based record is a computer-based patient medical record and the digitally encoded image is a digitally encoded patient image. However, Scott teaches the computer-based medical record comprises at least one graphical symbol superimposed on said digitally encoded patient medical image (abstract and Figs. 17, 19, 21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the computer-based record in Qian's teaching to be a computer-based patient medical record and the digitally encoded image to be a digitally encoded patient image because this would expand the usage environments of Qian and attract more users to use Qian' teaching.

As to claim 68, Qian further teaches said additional information is stored in alternative sets and wherein data from one of said alternative sets is provided to said user according to the user selection (column 8 lines 2-18 and Figs. 3-4).

As to claim 69, Qian teaches a computer-based user interface for accessing a computer-based record having a digitally encoded image, at least one clickable image map placed over said image, and additional information linked to said clickable image map, said computer-based user interface comprising (column 2 lines 37-40 and column 8 lines 11-18 and Fig. 3; *specifically, the clickable image map corresponds to item 62 of Fig. 3, and the additional information correspond to item 66 of Fig. 3*):

- a) A computer screen for display of said computer-based record (column 3 lines 46-51 and Figs. 2-3);
- b) A user input whereby a user can access said additional information linked to said clickable image map (column 3 lines 53-67 and column 8 lines 11-18);

c) A control form whereby said user can select the format or content of said additional information which said user accesses through said link to said clickable image map (column 3 lines 53-67 and column 8 lines 11-18 and Figs. 2-3; specifically, "a control form" corresponds to items 48, 50, 52, 54 of Fig. 2 and item 66 of Fig. 3).

Qian does not specifically teach the computer-based record is a computer-based patient medical record and the digitally encoded image is a digitally encoded patient image. However, Scott teaches manipulating a computer-based patient record comprising a digitally encoded patient image (abstract and Figs. 17-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the computer-based record in Qian's teaching to be a computer-based patient medical record and the digitally encoded image to be a digitally encoded patient image because this would expand the usage environments of Qian and attract more users to use Qian's teaching.

As to claim 70, Qian teaches said user input is a computer pointing device (column 3 lines 57-59). Qian does not explicitly teach said computer pointing device is a computer mouse controlling a cursor's movement on said computer screen. However, Scott teaches this matter (column 5 lines 4-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the computer pointing device in Qian's teaching to be a computer mouse for fast and easily selecting a desired object.

As to claim 71, Qian teaches said control form is a pop-up menu accessed by clicking on said clickable image map (column 3 lines 57-67 and Figs. 2-3).

As to claim 72, Qian teaches said user input is a computer pointing device, a pen or a speech recognition device (column 2 line 62 – column 3 line 9 and column 3 lines 57-59). Qian does not explicitly teach said computer pointing device is selected from the group of input mechanisms consisting of: mouse, trackball, touch tablet, sterile touch tablet; light pointer, optical three dimensional pointing system, ultrasonic three dimensional pointing system, and retinal position sensing. However, these input mechanisms are widely used. It would have been obvious to one of ordinary skill in the art to allow the computer pointing device in Qian's teaching to include variety types of devices such as mouse, trackball, etc., and to further allow the user input device in Qian's teaching to include retinal position sensing for fast and easily selecting a desired object.

As to claim 73, Qian teaches providing HTML actions initiated by passing selecting said clickable image map (column 7 lines 54-61 and Fig. 2).

As to claim 74, Qian teaches said HTML actions are selected from the group consisting of: displaying additional information about the portion of the digitally encoded image associated with said clickable image map; highlighting said portion of the digitally encoded image associated with said clickable image map; driving a floating box associated with on-screen cursor; triggering animations; causing a new window to open on said computer screen; and bringing up a pop-up menu which presents further options to the user (column 3 line 50 – column 4 line

4 and column 5 lines 5-12 and column 7 lines 38-61 and Figs. 2-3). Qian does not specifically teach the digitally encoded image is a digitally encoded patient image. However, Scott teaches manipulating a digitally encoded patient image (abstract and Figs. 17-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the digitally encoded image in Qian's teaching to be a digitally encoded patient image because this would expand the usage environments of Qian and attract more users to use Qian's teaching.

As to claim 75, Qian teaches HTML selection features for activating broadly-applicable functions (column 7 lines 54-61 and Fig. 2).

As to claim 76, Qian teaches said broadly-applicable functions are selected from the group consisting of: an internal word-search capability; an external web-search capability; a record site map; and user help information (column 4 lines 5-25 and column 8 lines 20-26 and Fig. 2). Qian does not specifically teach the record site map is a live medical record site map. However, Scott teaches this matter (column 11 lines 59-64 and column 14 lines 15-30 and Figs. 20-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the record site map in Qian's teaching to be a live medical record site map because this would expand the usage environments of Qian and attract more users to use Qian's teaching."

See Pages 9 through 13 of the January 20, 2004 Office Action.

Applicant respectfully traverses.

The combination of references fails to teach or suggest the means which allow a physician to interpret an image. He or she examines an image and dictates a report. Another physician may read the report and look at the image. The report and image may be transmitted electronically. However, in the claimed system, the interpretation by the physician must extend to individual anatomical and pathological details of the physical image. The physician must actually physically interact with an HTML system that applies clickable image maps to a medical image based on expert knowledge. The application of the map follows the medical interpretation of the image. By providing a means of image interpretation that requires the application of clickable maps by a physician together with simple dictation or typing of a report, this system contemplates a very significant change in the nature of the work by the physician and in the type of information the user (the referring physician or patient) can derive from the system. One reason why the approach of Qian is not applicable to medical images is the necessity that medical images should not be subject to masking or alteration after they are obtained. Such masking or alteration of the image itself has enormous negative medical and medico-legal implications. Therefore the system in this patent uses a copy of the medical image purely for

interactive communication. The interactive communication image is different from the data source image. Creating this distinction, which is not taught or suggested in any of the cited references, is the key to making this system viable in a medical diagnostic arena. This is why the invention provides for both a DICOM based (non-altered image) database and transmission system as well as for a system of generating tagged images for communication purposes. This appreciation of the need for a dual image system is the critical insight that allows for the use of HTML marking of the medical images and the lack of this inventive insight explains why no other worker in this field has produced such a system.

For these reasons, the combination of references fails to negate patentability of the invention under 35 U.S.C. § 103. Reconsideration and withdrawal of the rejection is respectfully requested.

III. CONCLUSION

No fee, other than the fee for a three month extension of time, is deemed necessary in connection with the filing of this Response. However, if the Patent Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 50-2518**, referencing billing number **7009802001**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Should a telephone advance prosecution of the subject application, the Examiner is invited to contact the undersigned at (650) 849-4950.

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Respectfully submitted,

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